



Shown with optional Technologic IPC
variable frequency drive and
Technologic PPS controller

Series e-80SC

SPLIT-COUPLED VERTICAL IN-LINE CENTRIFUGAL PUMP



The Series e-80SC pump delivers best-in-class performance with proven industry-leading efficiencies.

The Series e-80SC pump is a highly efficient, split-coupled, vertical in-line centrifugal pump that provides efficient pumping across the widest range of operational conditions. The Series e-80SC pump integrates with an optional variable speed drive, and has sensed or sensorless control capabilities, further increasing its potential for performance and efficiency. Designed for vertical in-line mounting, it's ideal for hydronic heating and cooling systems, light industrial processes and general service.

Series e-80SC pumps now feature a patented shaft jacking coupling design to simplify maintenance. This allows one serviceman to replace the mechanical seal without the need for an additional person to help lift the pump shaft during re-assembly. This feature can reduce labor cost and pump down time by 40%*.

*Depending on mechanical room layout and availability of lifting equipment.

Applications

- Hydronic heating & cooling systems
- Light industrial process
- General service

Advantages

- Best-in-class hydraulic performance
- Low operating and maintenance cost
- Optional flange mounting supports
- Low maintenance
- Horizontal or vertical installation
- Several seal options
- Integrated variable speed drive (optional)
- Sensed or sensorless control capability (optional)

Motor and Motor Bracket

The Series e-80SC pump accepts 60 hz TC-face NEMA Premium motors. Its combination motor bracket / volute cover plate assures positive concentric alignment of the motor to the pump casing, which improves efficiency and reduces wear. Plus, the brackets feature a wide access area for easy seal removal.

Shaft Jacking Coupling

The Series e-80SC pumps feature a patented shaft jacking coupling design to simplify maintenance. This allows one serviceman to replace the mechanical seal without the need for an additional person to help lift the pump shaft during reassembly. In the reassembly process, as you tighten the two coupling halves, the tapered washer moves up into the angled groove and the pump shaft with impeller are raised back to the correct height setting.



Series e-80SC pump installed with Technologic variable speed drive and Technologic PPS controller

This innovative feature is a major benefit for service contractors and building owners as it reduces labor cost and pump downtime.

Stainless Steel Impellers

The Series e-80SC pump incorporates stainless steel impellers to improve sustainable hydraulic performance, resist chemicals and reduce corrosion. They're balanced to ANSI Grade G6.3, to provide years of quiet performance and trouble-free service.

Mechanical Seal

The seal of the Series e-80SC pump has a compact Rotating Unitized Seal Head design for easy seal replacement. It features a positive metal-to-metal drive system that reduces the torsional stress on the bellows. In addition, the bellows are pressure supported without creases or folds, which creates lower stress and extends the life of the seal. The e-80SC pump includes a standard internally flushed mechanical seal with a maximum working pressure of 175 psi. Two optional mechanical seals, each with a maximum pressure of 250 psi, are also available, one is installed internally and one for external installation. Both seal types utilize an external flush line to prolong seal life.

Easy Installation, Service and Maintenance

The bottom of the volute is tapped with four bolt holes to accept an ANSI/ASME flange, which provides temporary support while installing the Series e-80SC pump. A patented shaft jacking coupling design enables a single person to remove and replace the mechanical seal without disturbing the pump or motor. Flush line filters and sediment separators are available on request.

Construction Materials - diagram and table

Construction Materials (for parts in contact with fluid pumped)

Integrated Variable Speed Drives

Provide variable flow pumping for the broadest range of applications with optional Bell & Gossett variable speed drives. The Integrated Technologic Sensorless Control drive (ITSC) combines the energy savings of variable flow with sensorless curve control to provide turn down at low flow while eliminating the cost and time of using wired transducers and sensors. The Integrated Technologic drive (IT) is another variable speed option designed for building automation system control. It provides an energy efficient and economical alternative for applications that don't require sensorless control.

PPS Controller

Integrate up to eight Series e-80SC pumps in parallel operation for sensed or sensorless control using an optional, Technologic sensorless or sensed controller. It features a large display screen that shows actual system performance via real-time graphical displays of the hydraulic pump curve, system curve and control curve. As pumps are added to the parallel pumping system, efficiency increases because each pump works less. Plus, individual pumps can be staged ON/OFF more effectively, thanks to the controller's wide hydraulic efficiency range.

Description	Stainless Steel Fitted Pump
Shaft	416 Stainless Steel
Volute	Cast Iron ASTM A48 Class 30B
Impeller	ASTM A743 Grade CF8 (304SS)
Impeller Key	Stainless Steel
Impeller Lock Washer	Stainless Steel
Impeller Capscrew	Stainless Steel
Volute Gasket	Cellulose Fiber
Throttle Bushing	Carbon Graphite
Seal Assemblies	
• Standard Seal-Inside Flushed	
Bellows	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel or Brass
Spring	Stainless Steel or Brass
• Optional Seal -Inside Flushed	
Bellows	EPR
Faces	Carbon-Tungsten Carbide
• Optional Seal-Outside Flushed	
O-Rings	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel

Standard pump construction is 175 psi working pressure with 125 ANSI flange drilling. Optional 250 psi working pressure with 250 ANSI flange drilling is available.

Seal Selection Guide - Optional Outside Seal

A. Standard Seal - Inside with flush line.

EPR/Carbon-Ceramic; Temperature Range -20° to +250°F (-29° to +121°C).

*Maximum pressure is 175 psi (12 bar).

B. Optional Seal - Inside with flush line.

EPR/Carbon-Tungsten Carbide; Temperature Range

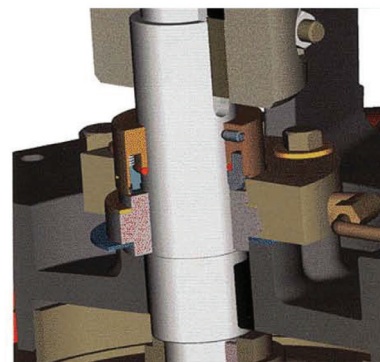
-20° to + 250°F (-29° to + 121°C). * For use on open or closed water systems. Maximum pressure is 250 psi (17 bar).

C. Optional Seal - Outside with flush line.

EPR/Carbon-Ceramic Type "8B2"; Temperature Range -20° to +250°F (-29° to + 121°C). * For use on closed or open systems where the pressure requirements exceed the limitations of the standard seal or an alternate seal design is desired. Maximum pressure is 250 psi (17 bar).

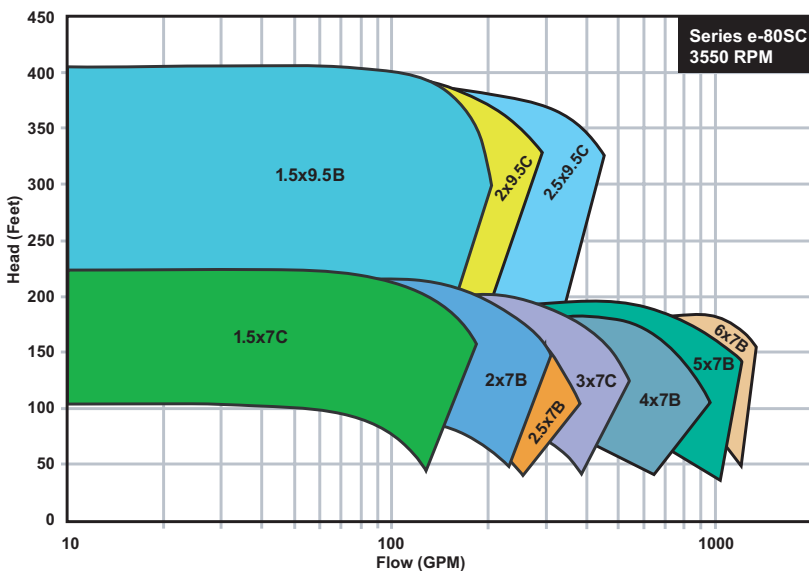
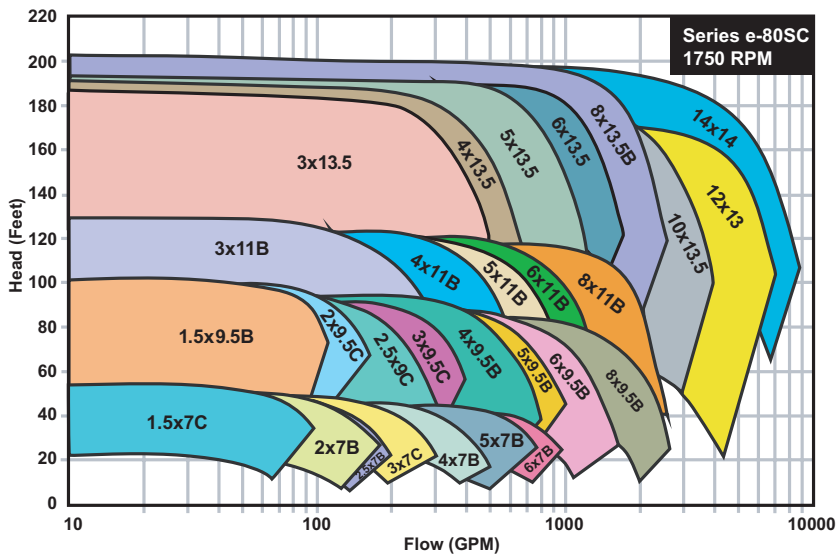
*For operating conditions above 250°F (121°C and no greater than 300°F (149°C) a cooled flush is required. On closed systems cooling is accomplished by inserting the optional heat exchanger kit in the flush line to cool the seal flushing fluid.

Flush line filters and sediment separators are available on request.



Optional outside seal

Standard Performance Curves



Engineering Specifications

Furnish and install pumps with capacities as shown on the plans. Pumps shall be split-coupled in-line, single-stage design, for installation in a vertical position, motor up, capable of being serviced without disturbing piping connections.

Pump volute shall be of Class 30 cast iron. It shall be designed with a base ring matching an ANSI 125# flange for pump support. The impeller shall be of stainless steel, enclosed type, balanced to Hydraulic Institute Standards (ANSI/HI 9.6.4.5-2000, figure 9.6.4.158). The allowable residual imbalance conforms to ANSI Grade G6.3, keyed to the stainless steel shaft and secured by a locking cap screw. The pump shaft shall be guided by a carbon graphite lower throttle bushing.

The combination motor bracket and volute cover plate shall be a one-piece unit to ensure concentric alignment of the motor to the pump casing.

The liquid cavity shall have a tapped flush line with a manual valve to remove air from the seal chamber for fast initial start-up. The mechanical seal shall have a compact rotating unitized seal head design with EPR elastomer bellows and a positive metal-to-metal drive system to reduce the torsional stress on the bellows. The bellows will be pressure supported without creases or folds for long life.

The spacer coupling shall be of high tensile aluminum, split to allow the servicing of the seal without disturbing the pump or motor. The motor bracket shall contain a carbon steel coupler guard conforming to both ANSI 815.1 section 8 and OSHA 1910.219 standards for safety.

(Optional) The seal flush line shall be fitted with a factory installed 50 micron cartridge filter (a cyclone separator when the pump differential pressure exceeds 30 psi) and a sight flow indicator.

Pumps shall be rated for continuous operation at a minimum of 175 psi working pressure (optional 250 psi) and 250°F (121°C). The volute shall have gauge tapings at the suction, and discharge nozzles and vent and drain tapings at the top and bottom.

The motor shall be Premium efficient, complying to IEC or NEMA specifications, and shall be the size, voltage and enclosure called for on the plans. It shall have heavy-duty grease-lubricated ball bearings, completely adequate for the maximum load for which the pump is designed.

Each pump shall be factory tested per Hydraulic Institute Standards. It shall then be thoroughly cleaned and painted with at least one coat of high-grade machinery enamel prior to shipment.

Series e-80 pumps are manufactured by Bell & Gossett, a Xylem, Inc. brand.

We value your feedback. Please take our 3 question survey at bellgossett.com/survey to let us know how we are doing.



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